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ROCKY MOUNTAIN FOREST & RANGE EXPERIMENT STATION
ARIZONA STATE COLLEGE
TEMPE, ARIZONA

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US FOR SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

NATIONAL FOREST FACTS

SOUTHWESTERN REGION

ARIZONA AND NEW MEXICO

1948

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Rocky Mountain Forest and Range Experiment Station
Forest Hydrology Laboratory
Tempe, Arizona

I
PUBLICATIONS
"National Forest Facts"

The purpose of this booklet is to provide the salient facts regarding the forest resources and their management in the Southwestern Region of the Forest Service, U. S. Department of Agriculture -- often called Region 3. It includes the 13 National Forests in Arizona and New Mexico.

REGIONAL FORESTER
Post Office Building
Albuquerque, N. M.

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ORIGIN OF NATIONAL FORESTS IN THE SOUTHWEST

Dates of Proclamations and Executive Orders Establishing Them	ARIZONA	Original Names and Present Names
	Apache National Forest	
August 17, 1898		Black Mesa Forest Reserve
July 1, 1908		Part of the Black Mesa Forest Reserve became the Apache N.F.*
(The above covers only the portion of the Apache N.F. in Arizona)		
	Coconino National Forest	
August 17, 1898		San Francisco Mountains Forest Reserve
July 2, 1908		All of the San Francisco Mountains Forest Reserve and parts of the Black Mesa, Tonto and Grand Canyon Forest Reserves were consolidated under the name of Coconino N.F.
	Coronado National Forest	
November 5, 1906		Baboquivari Forest Reserve
November 6, 1906		Huachuca Forest Reserve
November 7, 1906		Tumacacori Forest Reserve
July 2, 1908		Baboquivari, Huachuca and Tumacacori Forest Reserves consolidated under name of Garces N.F.
April 11, 1902		Santa Rita Forest Reserve.
July 2, 1902		Santa Catalina Forest Reserve.
May 25, 1907		Dragoon N. F.
July 2, 1908		Santa Rita, Santa Catalina and Dragoon N.Fs. consolidated under name of Coronado N.F.
April 17, 1911		Garces and Coronado N.Fs. consolidated under name of Coronado N.F.
July 30, 1902		Chiricahua Forest Reserve
November 5, 1906		Peloncillo Forest Reserve
July 2, 1908		Chiricahua and Peloncillo Forest Reserves consolidated under name of Chiricahua N.F. (Portion of the Peloncillo in New Mexico)

The term "National Forest" is abbreviated in this section.

Coronado National Forest (Continued)

July 6, 1917	Chiricahua and Coronado N.Fs. Consolidated under name of Coronado N.F.

(The above covers the entire Forest in Arizona and New Mexico)

Crook National Forest

July 22, 1902	Mt. Graham Forest Reserve.
March 20, 1905	Pinal Mountains Forest Reserve.
October 3, 1905	Tonto Forest Reserve.
January 13, 1908	Pinal Mountains Forest Reserve became part of Tonto N.F.
July 1, 1908	Parts of the Mt. Graham and Tonto N.Fs including Pinal Mountains area, consolidated under name of Crook N.F.
January 23, 1925	518,431 acres transferred from Apache N.F. to Crook N.F.

Kaibab National Forest

February 20, 1893	Grand Canyon Forest Reserve.
July 2, 1908	All of the San Francisco Mountains and parts of the Black Mesa, Tonto and Grand Canyon Forest Reserves consolidated under name of Coconino N.F.
June 28, 1910	Part of Coconino N.F. together with certain other land not heretofore reserved became Tusayan N.F.
May 22, 1908	Dixie N.F. (Arizona)
July 2, 1908	Kaibab N.F.
March 18, 1924	Dixie consolidated with Kaibab N.F.
August 4, 1934	Tusayan and Kaibab N.Fs. consolidated

Prescott National Forest

May 10, 1898	Prescott Forest Reserve
December 30, 1907	Verde Forest Reserve.
July 2, 1908	Prescott and Verde N.Fs. consolidated under name of Prescott N.F.
October 22, 1934	249,201 acres transferred from Tusayan to Prescott N.F.

Sitgreaves National Forest

July 1, 1908	Parts of the Black Mesa and Tonto N.F.s consolidated under name of Sitgreaves N.F.

Tonto National Forest

October 3, 1905	Tonto Forest Reserve
October 22, 1934	Bloody Basin transferred from Prescott to Tonto N.F. (151,285 acres)

NEW MEXICO

Apache National Forest

January 23, 1925	A portion of Datil N.F. was transferred to Apache N.F. This portion was originally part of the Magdalena and Gila River Forest Reserves.

Carson National Forest

November 7, 1906	Taos Forest Reserve
July 1, 1908	Carson N.F. created by consolidation of Taos N.F. and part of Jemez N.F.
June 16, 1923	63,708 acres in Taos County transferred from Santa Fe N.F. to Carson N.F.

Cibola National Forest

October 5, 1906	Mt. Taylor Forest Reserve
November 5, 1906	San Mateo Forest Reserve Magdalena Forest Reserve.
November 6, 1906	Manzano Forest Reserve.
April 16, 1908	Mt. Taylor N.F. consolidated with Manzano N.F.
June 18, 1908	Creating the Datil N.F.
July 2, 1908	San Mateo N.F. added to Magdalena N.F.
February 23, 1909	Magdalena and Datil N.Fs. consolidated
March 2, 1909	Zuni N.F.
September 10, 1914	Zuni N.F. consolidated with Manzano N.F.
December 3, 1931	Name of the Manzano changed to Cibola N.F. and a portion of the Datil transferred to the Cibola.

Gila National Forest

March 2, 1899	Gila River Forest Reserve
February 6, 1907	Big Burros Forest Reserve
June 18, 1908	Consolidating the Big Burros with Gila N.F.
December 24, 1931	A portion of the Datil was transferred to the Gila N.F.

Lincoln National Forest

July 26, 1902	Lincoln Forest Reserve
November 5, 1906	Gallinas Forest Reserve.
April 19, 1907	Guadalupe N.F.
April 24, 1907	Sacramento N.F.
July 2, 1908	Guadalupe and Sacramento N.Fs. consolidated as Alamo N.F. The Gallinas and Lincoln N.Fs. consolidated as Lincoln N.F.
June 6, 1917 (effective July 1)	Alamo N.F. transferred to the Lincoln N.F.

Santa Fe National Forest

January 11, 1892	Pecos River Forest Reserve.
October 12, 1905	Jemez Forest Reserve.
July 1, 1908	Pecos River N.F. changed to Pecos N.F.
July 1, 1915	Jemez and Pecos N.Fs. consolidated as the Santa Fe N.F.

October 3, 1905	Portales Forest Reserve.
March, 1907	Portales Forest Reserve restored to the public domain.

NOTE: The foregoing covers only changes of name and major transfers. There have been many additions, eliminations and changes in boundaries not listed.

FIRE RECORD FOR 1947
Calendar Year

Forest and State	A Less Than ¼ A.	B ¼ A. & Less Than 10 A.	C. 10 A. & Less Than 100 A.	D. 100 A. & Less Than 300 A.	E Over 300 A.	Total	Man-Caused Fires
ARIZONA							
Apache	53	21	2			76	10
Coconino	344	95	5	2		446	91
Coronado	26	23	6	1		56	10
Crook	22	12			1	35	2
Kaibab	85	33	5	1		124	44
Prescott	46	11		2	1	60	18
Sitgreaves	130	74	15		1	220	16
Tonto	90	29	7	1	2	129	7
Total ARIZONA	796	298	40	7	5	1,146	198
NEW MEXICO							
Apache	42	15	4		1	62	3
Carson	28	15				43	19
Cibola	25	18	4			47	20
Coronado	1					1	
Gila	104	71	10		2	187	17
Lincoln	60	13	1			74	21
Santa Fe	42	23	4			69	26
Total NEW MEXICO	302	155	23		3	483	106
Total REGION 3	1,098	453	63	7	8	1,629	304

ACREAGE BURNED 1947

Forest and State	Gross Inside Boundaries	Area* Burned Objective
ARIZONA		
Apache	113	160
Coconino	806	600
Coronado	354	1,040
Crook	34	350
Kaibab	363	375
Prescott	1,183	400
Sitgreaves	1,068	300
Tonto	13,571	300
Total - ARIZONA	17,492	3,525
NEW MEXICO		
Apache	464	125
Carson	18	150
Cibola	136	300
Coronado		
Gila	1,665	700
Lincoln	69	500
Santa Fe	51	200
Total - NEW MEXICO	2,403	1,975
Total - REGION 3	19,895	5,500

* This represents the area to which the Forest Service hopes to hold down fires.

NATIONAL FOREST IMPROVEMENTS (GOVERNMENT OWNED) ON JUNE 30, 1947
(Includes Southwestern Forest & Range Exp.Station)

ARIZONA

	Fire Control and Administration	Number	Miles	Construction Cost
1.	Fire Control Improvements			122,610.40
2.	Lookout Houses, Towers & Observatories	69		
3.	Fire Control Water Facilities	2		
4.	Firebreaks		13.0	
	Administration Improvements			
5.	Communication Systems			426,958.41
6.	Telephone Lines		2,129.6	
7.	Dwellings and Related Improvements			715,635.94
8.	Dwellings	228		
9.	Other Structures	309		
10.	Water & Sanitary Systems	122		
11.	Warehouses, Shops and Offices			432,824.95
12.	Offices	51		
13.	Shops	9		
14.	Warehouses	205		
	Total:	995	2,142.6	1,698,029.70
	Public Service			
15.	Recreation Use Improvements			1,065,050.53
16.	Campgrounds and Picnic Areas	156		
17.	Swimming Areas	3		
18.	Winter Sports Areas	7		
	Total:	166		1,065,050.53
	Wildlife and Range Use Improvements			
19.	Range Use Improvements			3,258,991.82
20.	Range Fences and Corrals		7,040.8	
21.	Stock Driveways		178.8	
22.	Range Water Developments	2,401		
23.	Artificial Reseeding (Acres)	2,310		
24.	Wildlife Use Improvements			163,191.09
25.	Game Refuge Fences		7.8	
26.	Fish Rearing Ponds	15		
27.	Stream and Lake Improvements	39		
	Total:	4,765	7,227.4	3,422,182.91
28.	Soil and Water Control Improvements			334,777.28
29.	ROADS		5,442.2	9,587,895.68
30.	TRAILS		3,966.1	540,216.61
	Total:		9,408.3	10,462,889.57
	GRAND TOTAL:	5,926	18,778.3	16,648,152.71

RANGER DISTRICTS IN REGION 3 - TOTAL 75

ARIZONA

Apache National Forest	2
Coconino " "	6
Coronado " "	5
Crook " "	5
Kaibab " "	4
Prescott " "	6
Sitgreaves " "	4
Tonto " "	8
	40

NEW MEXICO

Apache National Forest	3
Carson " "	6
Cibola " "	6
Coronado " "	1
Gila " "	7
Lincoln " "	5
Santa Fe " "	7
	35

NATIONAL FOREST IMPROVEMENTS (GOVERNMENT OWNED) ON JUNE 30, 1947
(Includes Southwestern Forest & Range Exp. Station)

	NEW MEXICO			TOTAL R-3		
	Number	Miles	Construction Cost	Number	Miles	Construction Cost
1.			88,539.07			211,149.47
2.	50			119		
3.				2		
4.		8.0			21.0	
5.			658,211.72			1,085,170.13
6.		2,421.1			4,550.7	
7.			473,987.80			1,189,623.74
8.	156			384		
9.	260			569		
10.	57			179		
11.			283,985.28			716,810.23
12.	38			89		
13.	4			13		
14.	141			346		
	706	2,429.1	1,504,723.87	1,701	4,571.7	3,202,753.57
15.			568,274.97			1,633,325.50
16.	109			265		
17.				3		
18.	12			19		
	121		568,274.97	287		1,633,325.50
19.			2,376,986.37			5,635,978.19
20.		5,642.5			12,683.3	
21.		44.0			222.8	
22.	963			3,364		
23.	306			2,616		
24.			82,690.59			245,881.68
25.		2.5			10.3	
26.				15		
27.	58			97		
	1,327	5,689.0	2,459,676.96	6,092	12,916.4	5,881,859.87
28.			439,167.60			773,944.88
29.		2,819.5	7,119,968.40		8,261.7	16,707,864.08
30.		3,384.5	304,154.70		7,350.6	844,371.31
		6,204.0	7,863,290.70		15,612.3	18,326,180.27
	2,154	14,322.1	12,395,966.50	8,080	33,100.4	29,044,119.21

TIMBER RESOURCES IN ARIZONA AND NEW MEXICO

Forest area in Arizona and New Mexico may be divided into two types:

1. The sawtimber area, containing ponderosa pine, Douglas fir, white fir and other species suitable for logging operations. This area is generally found above 7,000 ft. elevation and up to 11,500 ft. (timberline). It receives precipitation averaging 19 inches or better, annually. (In general, precipitation increases with elevation).

2. The woodland area, containing pinon, juniper, oak and the like. Generally between the 5,000 ft. and 7,000 ft. elevations, where precipitation is from 12 to 18 inches annually.

FOREST AREA IN REGION 3
(In acres. Includes all ownerships)

	Sawtimber Area	Woodland Area	Total Forest Area
ARIZONA	4,638,000	14,900,000	19,538,000
NEW MEXICO	6,101,000	13,900,000	20,001,000
REGION 3	10,739,000	28,800,000	39,539,000

A considerable part of the sawtimber area in Arizona and New Mexico is inaccessible or too scattered for logging purposes or withdrawn for purposes other than timber production. This part is classed as "non-commercial". The part which can be used for timber production is called the " commercial" sawtimber area, and according to present ideas, this area is all that will be available for future production of timber.

COMMERCIAL SAWTIMBER AREA AND VOLUME

ARIZONA	Area (Acres)	Volume (M ft.B.M.)
National Forests	2,058,000	11,550,000
Indian Reservations	686,000	4,467,000
State	30,000	105,000
Total, Federal and State	2,774,000	16,122,000
Private	41,000	148,000
Grand Total	2,815,000	16,270,000
NEW MEXICO		
National Forests	2,020,000	5,610,000
Indian Reservations	345,000	653,000
Other Federal	40,000	142,000
State	149,000	407,000
Total, Federal & State	2,554,000	6,812,000
Private	911,000	1,659,000
Grand Total	3,465,000	8,471,000

The commercial sawtimber area may be divided as follows (by acres):

	Virgin	Cut-over	Total
ARIZONA	1,969,000	846,000	2,815,000
NEW MEXICO	1,834,000	1,631,000	3,465,000

The cut-over land varies in its condition and consequently in its ability to produce future timber crops. For the Region, it varies about as follows:

	Acres
1. Denuded lands with only a light stand of seedlings & saplings	424,000
2. Land fairly stocked with seedlings and saplings	495,000
3. Land with pole timber (trees between 4 and 12 inches D.B.H.)	598,000
4. Selectively-cut land such as that on publicly owned areas	960,000
	2,477,000

It is only from such lands as the last (No. 4) that an early second cut of timber will be obtainable.

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NUMBER OF TREE SPECIES IN REGION 3

According to U. S. Department of Agriculture, Misc. Circular No. 92, "Check List of the Forest Trees of the United States", there are 131 species of trees in Region 3.

Of these 131 species, four make up 98% of volume of the sawtimber stand. Ponderosa pine (Pinus ponderosa) makes up 82% of the volume; Douglas fir (Pseudotsuga taxifolia) 10%; White fir (Abies concolor) 3%; Engelmann spruce (Picea engelmannii) 3%; Mexican white pine (Pinus strobiformis), Corkbark fir (Abies Arizonica) limber pine (Pinus flexilis), etc., making up the remainder.

FUEL VALUE OF WOOD
(Local species and typical others for comparison)

Approximate equivalents of one ton (2,000 pounds) of coal in terms of one cord of 128 cubic feet containing 80 cubic feet of solid wood:

One cord of	One and one-half cords of	Two cords of
Oaks	Soft maple	Cedars
Locusts	Sycamore	Cypress (Cupressus)
Hard maple	Mesquite tops	Cottonwoods
Ashes	Douglas fir	Aspen
Hickory	Southern pines	Pines (other than southern)
*Mesquite Roots	Hemlocks	
	Larch	

* Of all American species of wood, mesquite is one of the few in which the root-wood is of higher specific gravity than above-ground wood. It pays to use the root-wood for fuel and the grubbing will improve many of our ranges.

SAWTIMBER CUT BY YEARS (ENTIRE STATE)

Data from Census (Calendar Year)
(All Ownerships)

(The figures below are in M ft. B.M., which equals 1,000 board feet)

Year	Number Mills Reporting: Arizona	Number Mills Reporting: New Mexico	Total Cut: Arizona	Total Cut: New Mexico	Total Cut: Arizona and New Mexico
1932:	22	52	58,000	72,000	130,000
1934:	34	74	73,000	101,000	174,000
1936:	36	87	123,411	140,840	264,251
1937:	39	105	123,041	164,446	287,487
1938:	37	94	118,200	125,176	243,376
1939:	42	98	119,206	106,227	225,433
1940:	41	100	128,776	112,786	241,562
1941:	42	119	130,567	114,612	245,179
1942:	38	138	143,286	122,958	266,244
1943:	44	118	151,547	109,099	260,646
1944:	47	136	172,198	105,348	277,546
1945:	53	135	157,984	99,100	257,084
1946:	66	158	240,735	144,214	384,949

The sawtimber forests of Arizona and New Mexico have supplied sawtimber for the production of approximately nine and one-half billion board feet of saw products during the period 1879 to 1946 inclusive.

TIMBER CUT FROM NATIONAL FORESTS, BY YEARS

All classes of products converted to M ft. All classes of Forest Sales

Calendar Year

Year	Sales (All Classes) & Exchange M Ft. BM: Arizona	New Mexico	Total Arizona & New Mexico	Average Price Per M Ft.	Free Use **: Arizona	New Mexico	Total
1932:	57,577	11,541	69,118	$ 2.31	* 12,876	27,962	40,838
1934:	35,452	13,600	49,052	2.35	14,568	23,485	38,053
1936:	92,154	35,848	128,002	2.34	13,593	22,253	35,846
1937:	92,474	51,775	144,249	2.24	7,902	25,332	33,234
1938:	69,853	37,818	107,671	2.19	8,117	25,452	33,569
1939:	65,416	32,780	98,196	2.18	8,381	24,111	32,492
1940:	74,634	41,084	115,718	2.30	8,976	28,674	37,650
1941:	79,301	29,949	109,250	2.45	6,767	29,850	36,617
1942:	75,033	45,190	120,223	2.48	6,575	20,588	27,163
1943:	77,634	54,053	131,687	2.82	4,756	13,660	18,416
1944:	113,551	41,678	155,229	3.40	4,970	13,565	18,535
1945:	109,209	42,768	151,977	3.33	5,304	16,527	21,831
1946:	170,358	49,477	219,835	3.29	6,845	18,606	25,451
1947:	196,444	47,854	244,298	3.54	4,579	17,061	21,640

*Previous figures on "Free Use" are calendar year, subsequent are fiscal Year.

Handled under cooperative agreement (State Timber) 9,601 M (C.Y. 1947)
Handled under cooperative agreement (Private Timber) 10,850 M (C.Y. 1947)

**Allowed settlers and residents on and adjacent to the National Forests for fuel, fencing, building, etc.

NATIONAL FOREST TIMBER CUT, BY FORESTS

Fiscal Year 1947

National Forest	Sales & Exchange (1000 Bd. Ft.)	Value	Amount Free Use (1,000 bd. ft.)
Apache	57,920	$ 171,416	433
Coconino	75,331	204,632	722
Coronado	1,732	5,636	960
Crook	351	1,130	92
Kaibab	18,320	69,396	350
Prescott	1,952	9,567	326
Sitgreaves	38,694	152,128	730
Tonto	7,820	38,991	966
ARIZONA	202,120	652,896	4,579
Apache	8,073	38,710	466
Carson	7,669	31,153	9,085
Cibola	10,822	29,082	1,729
Coronado	-	-	56
Gila	5,731	19,845	564
Lincoln	4,741	18,649	845
Santa Fe	15,497	65,030	4,316
NEW MEXICO	52,533	202,469	17,061
REGION 3	254,653	855,365	21,640

Increment of Ponderosa Pine Stands During Different Periods After Cutting
(Data collected and compiled by Southwestern Forest and Range Exp.Station)

Board Ft. Remaining After Cutting	Years After Cutting					
	5	10	15	20	25	30
	Board Ft.	Board Ft.	Board Ft.	Board Ft.	Board Ft.	Board Ft.
200	50	145	200	320	420	520
600	100	250	390	520	670	800
1,000	165	325	495	680	870	1,030
2,000	260	515	805	1,090	1,340	1,610
3,000	350	700	1,125	1,550	1,825	2,230
4,000	460	900	1,410	1,910	2,430	2,900
5,000	540	1,050	1,640	2,240	2,800	3,350
6,000	620	1,220	1,850	2,550	3,250	3,875
7,000	670	1,350	2,070	2,800	3,550	4,250
8,000	735	1,480	2,250	3,050	3,950	4,650
9,000	775	1,550	2,400	3,200	4,050	4,700
10,000	800	1,650	2,500	3,250	4,000	4,800

NOTE: Increment volumes in lower portion of table are subject to considerable error due to too few plots. Volumes beyond 20 years were obtained by extending curve.

COMPARATIVE DECAY RESISTANCE OF HEARTWOOD OF LOCAL AND FREQUENTLY-USED OUTSIDE SPECIES

(Applies only to heartwood, untreated. Sapwood of no species is durable under conditions favoring decay; i.e., in contact with soil, poorly-drained or aerated parts of buildings, bridges, etc.)

Durable Group

- Cedars
- Junipers
- Black Locust
- Osage Orange
- Redwood
- Southern cypress

Nearly as Durable Group

- White oaks
- Honey locust
- Dense Douglas fir
- Dense southern pine
- Dense larch

High Intermediate Group

- Cypress (Cupressus)
- Douglas fir (unselected)
- Southern pine (unselected)
- Larch (unselected)

Low Intermediate Group

- Red Oaks
- Pines (other than southern)
- Maple (hard and red)
- Ashes
- Hemlocks
- Spruces

Nondurable Group

- True firs (concolor, alpine, balsam, etc.)
- Aspen
- Cottonwood
- Willows

NOTE: When used under decay-inducing conditions the woods in the last three groups should be treated with an approved preservative and in so treating sapwood all around is preferable.

Stream flow characteristics of small mountain watersheds in central Arizona as related to precipitation.

	Elevation (ft.)	Precipitation (Inches)	Stream flow (inches)	Stream flow as percent of precipitation
Winter period (October through May)				
Workman Creek (1938-45)	6500-7700	25.6	3.8	14.7
Parker Creek (1934-45)	5400-7400	20.9	6.6	31.6
Pocket Creek (1936-45)	5300-7000	17.8	4.4	24.6
Summer period (June through September)				
Workman Creek (1939-46)	6500-7700	10.4	0.40	3.8
Parker Creek (1934-46)	5400-7400	9.9	0.32	3.2
Pocket Creek (1937-46)	5300-7000	8.5	0.18	2.1

The above table indicates that summer rains ordinarily contribute little to stream flow; the bulk of the water comes from the winter precipitation. The reasons are (a) Summer thunderstorms are usually local and of short duration; any run-off generally disappears in dry stream beds. (b) Summer rains generally do not get a chance to accumulate in the ground, and hence do not produce sub-surface flow. In contrast, winter period storms are generally widespread, of medium to high intensity, and long duration. Hence, they produce sub-surface run-off and relatively high water yield. There are exceptions to the above; occasionally a late summer storm causes heavy run-off of short duration.

SOIL LOSS, SURFACE RUN-OFF, AND INFILTRATION
As Affected by Different Soil Types and Vegetation

(From records of Southwestern Forest and Range Experiment Station)

In 1938 a battery of seven pairs of 1,000 square inch lysimeters -- or soil boxes -- was installed at the Sierra Ancha Experimental Forest. Each contained undisturbed soil blocks representing seven different important soil types from the Tonto National Forest. One of each pair of soil boxes is grass covered and one is bare of vegetation. Results for 6 years are summarized in the table on the following page:

Soil Types	Soil Loss (cu. in.)		Surface run-off in percent of Precipitation		Percolation in percent of Precipitation	
	Bare	Vegetated	Bare	Vegetated	Bare	Vegetated
Gray schist	302	91	52.3%	38.9%	6.2%	12.2%
Volcanic malpais	721	208	14.9%	15.4%	27.2%	11.5%
Conglomerate	512	87	19.1%	15.0%	24.0%	20.4%
Red Shale	661	17	25.9%	2.0%	19.5%	26.2%
Sandstone	586	29	30.2%	5.8%	18.5%	23.2%
Diabase	341	16	27.7%	6.7%	19.0%	22.4%
Quartzite	322	7	31.5%	3.2%	8.9%	24.6%
Total	3,445	455	28.8%	12.4%	17.6%	20.1%

Facts indicated by the data: On the average for all soil types the amount of eroded material from the bare plots was seven and one-half times as great as that from the vegetated plots. Surface run-off, like erosion, was greatest on all the bare soil types with the exception of the volcanic malpais. On the average, infiltration was greater on the vegetated plots. Both surface run-off and erosion per unit of precipitation were greater during the summer period, while most of the infiltration occurred during the winter.

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

(The basis for these estimates is a correlation of stream-gaging and precipitation records, adjusted to elevations, vegetative association and other factors affecting run-off. The precipitation data were obtained from Weather records and state maps and the available stream-gaging records used for certain basic flow determinations were obtained from U.S.G.S. water supply papers.)

Santa Fe National Forest

Drainage Name	Gross Area of Basin In Sq. Miles (Santa Fe Forest)	Annual Water Yield-Acre Ft. Per Year	Per Sq. Mi.
Mora River*	132	42,000	317
Gallinas River	57	20,000	346
Tecolote Creek	46	8,000	179
El Rito Creek	30	3,500	118
Canyon Blanco	74	4,500	60
Cow Creek	121	26,500	220
Pecos River	306	108,000	353
Rio Galisteo	74	6,200	85
Santa Fe Creek	35	8,500	242
Pojoaque Creek	60	13,100	218
Santa Cruz & Truchas	117	36,000	308
Direct Tributaries from West Side **	209	17,600	84
Jemez River	223	40,400	181
Rio Puerco	102	12,100	119
Chama River	336	43,500	129
Gallina River	218	21,600	100
Largo Creek (San Juan)	18	800	44
Total Santa Fe Forest:	2,158	412,300	190

* Includes Rociada Tract and unacquired Mora Grant lands to Forest Boundary.
** Excluding Ramon Vigil Grant.
Baca Location is not included in estimates.

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

Gila National Forest

Drainage Name	Gross Area of Basin in Sq. Miles (Gila Forest)	Annual Water Yield - Acre Ft. Per Year	Per Sq. Mi.
Luera Mtns. and Y Canyon	155	4,100	26
Negrito Creek	185	8,100	44
San Francisco (Direct)	486	35,000	68
Sub (San Francisco)	671	43,100	62
Sacaton Creek	18	2,500	139
Mogollon Creek	110	17,100	155
West Fork, Gila	164	30,850	188
Middle Fork, Gila	364	35,500	98
Main Stem, Gila	728	35,700	49
Bear Creek	126	7,200	57
Sapillo Creek	176	9,750	55
Black Canyon	115	10,100	88
Diamond Creek	119	9,700	81
Mangas Wash (Burros)	82	2,100	26
Gila direct (Tillie-Hall Peak)	36	800	22
Gila direct (Burros)	178	4,100	23
Sub T. (Gila River)	2,216	165,400	76
Mimbres	345	19,600	57
Rio Grande (Direct)	454	26,100	57
Sub T. (Rio Grande)	799	45,700	57
Total Gila Forest	3,341	256,300	67

Carson National Forest

Latir Creek	17	5,500	325
Red River	171	62,000	364
San Cristobal	29	3,200	112
Rio Hondo	38	19,300	507
Taos Creek*	123	32,200	264
Little Rio Grande *	145	38,300	264
[illegible] (Pueblo Cr.)	230	65,000	284
Coyote Creek (Can)#	14	4,500	320
Los Pinos - San Antone	204	50,000	248
Brazos **	20	8,000	392
Aguage Arroyo ##	74	4,600	62
Las Vegas	186	22,000	120
Valdaritos *	220	37,000	170
El Rito Creek	65	13,500	207
Canjilon Creek *	151	14,500	101
Rio Nutrias **	17	3,500	212
Rio Cebolla **	54	4,000	76
Chama (Direct)	38	600	16
San Juan (Jicar.)	249	15,600	63
Total Carson Forest ***	2,045	403,300	197

* Includes Non-National Forest area of Watershed.
** National Forest drainage only
*** Totals include non-forest areas as listed above
# Does not include Santa Fe area to be administered by Carson
Does not include Taos Resettlement Area

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

Apache National Forest

Drainage Name	Gross Area of Basin In Sq. Miles (Apache Forest:	Annual Water Yield - Acre Ft. Per Year	Per Sq. Mi.
Mineral Creek	52	12,200	232
Canero Creek	37	8,300	224
Little Colorado (Direct)	81	33,700	414
So. Fork Little Colorado	55	14,300	260
Nutrioso Creek	148	17,300	117
Coyote Creek*	80	5,500	69
Agua Fria Creek*	127	6,400	51
Largo Creek*	127	13,700	108
(Sub-T. Little Colorado)	707	111,400	158
Mangas Creek*	61	8,100	133
Alamacito-Patterson*	74	8,400	114
T. H. Canyon-Cottonwood*	45	6,100	135
(Sub-T. Interior Plains)	180	22,600	126
Tularosa Creek	324	23,800	74
Apache Creek	137	10,900	79
Saliz-Brushy Creek	75	4,200	56
Pueblo Creek	84	5,800	69
Upper "Frisco" Direct	162	24,200	149
Centerfire-Karruth Creek	149	10,800	73
Lower "Frisco" Direct	214	11,000	51
(Sub-Total San Francisco River)**	1,145	90,700	80
Campbell & Dry Blue	112	24,700	220
Blue River (Direct)	184	23,800	129
(Sub-Total Blue River)	296	48,500	164
North Fork Black River	49	21,800	445
East Fork Black River	63	25,500	405
Black River (Direct)	244	101,600	415
(Sub-Tot. Black River)	356	148,900	418
Total Apache Forest	2,684	422,100	157

* Principally flood waters and seasonal flow

** Exclusive of Negrito Creek above Apache-Gila boundary

NOTE: Water yield estimates for other Forests of Region 3 are not yet available.

Total Area Available for Livestock
(Includes National Forest Range)

	Arizona	New Mexico	TOTAL
Total Land Area	72,838,400	78,401,920	151,240,320
Barren and Unaccessible	9,139,597	1,420,086	10,559,683
Other Non-grazable	1,853,855	3,059,800	4,913,655
Total Non-grazable	10,993,452	4,479,886	15,473,338
Total Gross Grazable	61,844,948	73,921,034	135,766,982
Closed to Grazing	780,985	271,491	1,052,476
Total Net Area Available for Livestock - Acres	61,063,963	73,650,543	134,714,506
Percent	83.8	93.9	89.1

Livestock Actually Grazed Under Permit on National Forests

ARIZONA

C.Y.	Cattle	Horses	Sheep	Goats	Swine	Exempt Livestock
1928	186,277	2,231	286,231	1,766	460	19,495
1929	181,125	1,951	351,221	1,397	455	18,631
1930	172,024	1,533	352,368	426	272	11,073
1931	178,900	1,427	331,329	3,345	196	10,778
1932	181,388	1,391	262,652	1,786	157	10,460
1933	185,711	1,312	361,013	0	115	10,824
1934	188,281	1,018	245,189	10	80	10,629
1935	181,363	912	252,117	0	55	10,398
1936	180,046	1,074	270,029	600	50	11,273
1937	182,421	1,014	242,182	600	42	11,261
1938	183,396	1,042	223,993	600	45	11,287
1939	171,778	1,198	199,086	800	45	10,087
1940	149,896	1,397	155,068	800	45	9,335
	C&H		S&G			C&H / S&G / Swine
*1941	158,377		142,444		30	8,827 / 10 / 10
*1942	157,500		143,948		45	8,504 / 10 / 9
*1943	158,640		135,560		45	8,550 / – / –
*1944	153,217		113,504		35	8,280 / 6 / 9
*1945	147,726		104,408		25	7,609 / 76 / –
*1946	143,995		103,506		18	6,223 / – / –
*1947	136,696		102,070		19	5,575 / – / –

* C&H and S&G figures combined in annual grazing report.

Livestock Actually Grazed Under Permit on National Forests

NEW MEXICO

C. Y.	Cattle	Horses	Sheep	Goats	Swine	Exempt Livestock	
1928	81,065	3,446	227,651	10,491	168	12,167	
1929	81,044	3,381	244,509	10,427	134	11,024	
1930	82,049	2,964	225,577	10,526	84	11,044	
1931	86,197	2,651	217,044	9,592	102	10,374	
1932	88,669	2,148	211,156	10,850	104	11,581	
1933	91,747	1,704	191,617	10,225	60	11,488	
1934	92,923	1,548	200,156	8,082	19	11,467	
1935	89,174	1,755	179,410	8,639	15	7,641	
1936	86,636	1,894	189,446	6,988	0	10,425	
1937	86,776	1,841	164,709	6,638	0	10,473	
1938	84,136	1,869	167,524	6,417	0	10,016	
1939	89,120	2,028	168,230	4,969	0	11,766	
1940	89,105	1,720	157,601	5,163	0	12,373	
	C&H		S&G			C&H	S&G
*1941	86,381		168,529		0	9,344	1,474
*1942	87,519		164,952		51	8,631	1,369
*1943	87,608		150,695		209	9,388	1,168
*1944	89,941		144,060		-	8,838	1,186
*1945	83,571		137,767		-	8,798	1,605
*1946	84,794		125,395		-	8,273	1,329
*1947	80,744		111,497		-	7,225	988

* C&H and S&G figures combined in annual grazing reports.

Estimates of Wildlife on National Forests

Game Animals

	Year	Antelope	Black or Brown Bear	Silver Tip or Grzly Bear	Deer	Elk	Mtn. Sheep	Peccary or Javelina	Squirrel	Turkey
Arizona	1936	5040	820	-	81,090	4605	175	5405	54,810.	10,290
	1937	5490	840	-	73,980	4400	200	5810	57,900	10,620
	1938	5320	865	1	70,020	4140	210	6140	43,590	9,990
	1939	5100	860	1	67,780	4290	220	7100	25,400	8,990
	1940	5400	970	-	62,500	4340	215	*	*	8,370
	1941	5900	950	-	61,700	4300	210	7100	298,330	8,760
	1942	5500	1020	-	64,995	4100	200	8400	*	9,400
	1943	5235	960	-	61,995	4095	190	8700	*	*
	1944	5000	1021	-	61,107	3897	166	10355	*	11,570
	1945	4691	872	-	63,762	4190	145	11202	*	11,466
	1946	5192	888	-	63,921	5854	133	10287	*	12,520
	1947	4832	924	-	62,914	6574	91	10706	*	13,955
New Mex.	1936	1040	1350	5	86,460	855	115	-	40,450	14,400
	1937	1180	1320	4	76,400	880	55	400	38,400	12,500
	1938	1460	1330	3	72,200	965	90	300	38,800	13,120
	1939	1550	1324	2	69,130	1040	70	400	36,500	12,350
	1940	1700	1430	2	69,300	1060	55	*	*	11,100
	1941	2100	1400	2	68,800	1200	60	400	340,500	10,810
	1942	2300	1342	-	68,100	1300	60	500	*	11,000
	1943	2395	1412	-	68,250	1497	90	500	*	*
	1944	2506	1493	-	67,270	1572	93	500	*	10,253
	1945	2628	1550	-	67,072	1589	104	1005	*	10,645
	1946	2478	1627	-	65,838	1616	108	1200	*	10,303
	1947	2392	1351	-	65,787	1742	114	500	5,600	10,132
Total Region 3	1936	6080	2170	5	167,550	5460	290	5405	95,260	24,690
	1937	6670	2160	4	150,380	5280	255	6210	96,300	23,120
	1938	6780	2195	4	142,220	5105	300	6440	82,390	23,110
	1939	6650	2184	3	136,910	5330	290	7500	61,900	21,340
	1940	7100	2400	2	131,800	5400	270	*	*	19,470
	1941	8000	2350	2	130,500	5500	270	7500	638,830	19,570
	1942	7800	2362	-	133,095	5400	260	8900	*	20,400
	1943	7630	2372	-	130,245	5592	280	9200	*	*
	1944	7506	2514	-	128,377	5469	259	10855	*	21,823
	1945	7319	2422	-	130,834	5779	249	12207	*	22,111
	1946	7670	2515	-	129,759	7470	241	11487	*	22,823
	1947	7224	2275	-	128,701	8316	205	11206	5,600	24,087

* Data not available.

Estimates of Wildlife on National Forests

Fur-Bearing Animals

	Year	Badger	Beaver	Fox	Mink	Muskrat	Raccoon	Ringtail Cat	Skunk	Weasel
Arizona	1936	4,075	940	21,450	55	*	6,535	5,775	44,800	2,360
	1937	4,110	930	20,550	70		6,840	6,110	43,200	2,210
	1938	3,640	960	20,370	50		6,950	6,730	42,500	2,090
	1939	3,000	931	20,400	20		6,200	7,200	41,700	2,200
	1940	3,300	957	21,300	300		7,300	8,600	35,500	2,200
	1941	3,200	950	21,600	300		7,500	8,600	34,600	2,700
	1942	3,200	1,117	19,860	60	1,500	8,300	7,800	35,600	2,700
	1943	3,100	1,195	20,630	55	2,340	7,720	*	40,460	1,235
	1944	3,085	804	19,165	28	1,298	7,055	900	38,750	1,487
	1945	2,950	1,630	19,351	54	2,295	7,516	1,000	35,665	1,147
	1946	3,076	1,758	19,470	24	2,585	8,046	955	34,477	1,622
	1947	3,056	1,752	19,011	23	2,702	7,932	735	34,114	1,311
New Mex.	1936	2,650	1,720	6,935	495	*	1,545	2,000	28,365	1,630
	1937	2,710	1,770	6,990			1,700	1,850	29,480	1,680
	1938	2,940	1,810	6,810	410		1,760	2,120	28,430	4,240
	1939	3,090	1,860	6,900	400		1,700	2,250	27,000	4,200
	1940	3,400	2,322	6,700	300		1,800	2,500	35,300	3,000
	1941	3,400	2,522	6,900	500		1,800	2,700	28,100	6,300
	1942	3,310	2,770	7,200	500	1,830	1,800	2,600	27,200	6,200
	1943	3,790	2,835	7,680	470	2,090	1,810	*	28,400	6,560
	1944	3,810	3,505	7,715	470	2,630	1,818	410	27,270	7,710
	1945	3,927	3,227	8,200	475	1,630	1,733	312	29,753	8,030
	1946	3,990	3,445	7,956	494	1,810	1,830	187	29,280	8,020
	1947	4,035	3,520	7,731	475	1,595	1,815	130	28,030	7,765
Total Region 3	1936	6,725	2,660	28,385	550		8,080	7,775	73,165	3,990
	1937	6,820	2,700	27,540	600		8,540	7,860	72,680	3,890
	1938	6,580	2,770	27,180	460		8,710	8,850	70,930	6,330
	1939	6,090	2,791	27,300	430		7,900	9,450	68,700	6,400
	1940	6,700	3,279	28,000	600		9,100	11,100	70,800	5,200
	1941	6,600	3,472	28,500	800		9,300	11,300	62,700	9,000
	1942	6,510	3,887	27,060	560	3,330	10,100	10,400	62,800	8,900
	1943	6,890	4,030	28,310	525	4,430	9,530	*	68,860	7,795
	1944	6,895	4,309	26,880	498	3,928	8,873	1,310	66,020	9,197
	1945	6,877	4,857	27,551	529	3,925	9,249	1,312	65,418	9,177
	1946	7,066	5,203	27,426	518	4,395	9,876	1,142	63,757	9,642
	1947	7,091	5,272	26,742	498	4,297	9,747	865	62,144	9,076

* Data not available.

Estimates of Wildlife on National Forests

Predatory Animals

	Year	Bobcat or Lynx	Coyotes	Mt. Lions	Wolf
Arizona	1939	10,090	17,875	460	22
	1940	10,000	21,900	480	13
	1941	11,580	23,500	490	15
	1942	10,870	28,500	455	21
	1943	10,940	28,090	475	8
	1944	11,060	27,350	463	16
	1945	11,083	25,950	429	9
	1946	11,020	27,106	439	12
	1947	11,297	23,434	487	14
New Mexico	1939	7,980	14,050	442	22
	1940	6,700	11,500	383	18
	1941	6,590	12,180	342	24
	1942	10,440	13,100	307	11
	1943	7,650	13,930	311	5
	1944	8,195	15,135	327	7
	1945	8,393	15,740	296	14
	1946	8,635	16,622	347	9
	1947	8,390	16,755	352	6

Game Animals Killed by Man

	Year	Antelope	Bear	Deer	Elk	Peccary	Squirrel	Wild Turkey
Arizona	1939	6	74	2,750	82	*	260	512
	1940	3	97	2,943	91	*	200	510
	1941	294	71	3,240	152	*	170	715
	1942	165	56	3,340	279	120	*	510
	1943	336	71	3,507	445	130	*	*
	1944	1	81	3,887	-	207	*	431
	1945	-	114	3,294	-	258	*	6
	1946	-	173	3,991	135	291	*	213
	1947	-	179	4,740	551	278	*	208
New Mexico	1939	46	96	3,042	19	*	2,200	646
	1940	55	100	4,050	25	*	2,600	560
	1941	122	97	4,403	31	*	2,350	629
	1942	123	54	3,428	51	10	*	370
	1943	135	50	5,157	135	10	*	*
	1944	140	119	3,856	51	10	*	623
	1945	163	129	3,564	37	10	*	624
	1946	-	191	4,550	49	-	*	631
	1947	161	159	4,173	55	-	*	918
Total Region 3	1939	52	170	5,792	101	*	2,460	1,158
	1940	58	197	6,993	116	*	2,800	1,070
	1941	416	168	7,643	183	*	2,520	1,344
	1942	288	110	6,768	330	130	*	880
	1943	471	121	8,664	580	140	*	*
	1944	141	200	7,743	51	217	*	1,054
	1945	163	243	6,858	37	268	*	630
	1946	-	364	8,541	184	291	*	844
	1947	161	338	8,913	606	278	*	1,126

* Data not available

GOVERNMENT OWNED WILDLIFE AND RANGE USE IMPROVEMENTS - JUNE 30, 1947

ARIZONA

Forest	Range Use Improvements: Fence & Corrals: Miles	Stock Driveways: Miles	Water Development: Number	Artificial Reseeding: Acres	Cost	Wildlife Use Improvements: Game Refuge Fences: Miles	Fish Rearing Ponds: Number	Stream & Lake Improv.: Number	Cost
Apache	551.4	45.0	82		191,063.82	3.5	5	16	59,991.26
Coconino	1,095.0		321		477,612.68			7	40,095.54
Coronado	1,299.1		594		627,691.56			1	15,328.27
Crook	1,113.2		360	2,300	515,557.76			8	18,040.63
Kaibab	535.4	5.5	183		321,819.12			1	3,670.28
Prescott	985.1	7.5	341		534,085.16	4.3			3,843.54
Sitgreaves	402.5		74		155,006.72		10	1	4,717.31
Tonto	938.1	120.8	392	10	352,081.08			5	17,504.26
Total Forests	6,919.8	178.8	2,347	2,310	3,174,917.90	7.8	15	39	163,191.09
Swn. Forest & Range Exp. Station	121.0		54		84,073.92				
GRAND TOTAL ARIZONA	7,040.8	178.8	2,401	2,310	3,258,991.82	7.8	15	39	163,191.09

NEW MEXICO

Forest	Range Use Improvements: Fence & Corrals: Miles	Stock Driveways: Miles	Water Development: Number	Artificial Reseeding: Acres	Cost	Wildlife Use Improvements: Game Refuge Fences: Miles	Fish Rearing Ponds: Number	Stream & Lake Improv.: Number	Cost
Apache	579.1		116		211,406.47				
Carson	446.6		97		192,654.34			12	25,192.84
Cibola	1,541.0		251		568,295.88			3	11,627.52
Coronado	59.4		33		23,923.82				
Gila	1,428.1		214	261	609,683.98	2.5		12	14,207.64
Lincoln	867.9		220	45	521,250.95				7,591.16
Santa Fe	588.4	44.0	25		191,976.53			31	24,071.43
Total Forests	5,510.5	44.0	956	306	2,319,191.97	2.5		58	82,690.59
Swn. Forest & Range Exp. Station	132.0		7		57,794.40				
GRAND TOTAL N. MEX.	5,642.5	44.0	963	306	2,376,986.37	2.5		58	82,690.59
TOTAL FORESTS	12,430.3	222.8	3,303	2,616	5,494,109.87	10.3	15	97	245,881.68
TOTAL SOUTHWESTERN	253.0		61		141,868.32				
GRAND TOTAL-REGION 3	12,683.3	222.8	3,364	2,616	5,635,978.19	10.3	15	97	245,881.68

LAND DISTRIBUTION STATISTICS

Distribution of Lands in Arizona	Area Acres	% To Total Area of State
Federal		
Indian Reservations	19,224,717	26.39
Grazing Districts and Public Domain	9,011,697	12.37
National Parks and National Monuments	2,394,568	3.29
Soil Conservation Service	10,454	.01
Santa Rita Experimental Range	52,604	.07
Southwestern Forest & Range Experiment Station	245	-
National Forests (net) *	11,429,163	15.69
Other Federal Lands	5,823,950	8.00
Total Federally Owned or Managed:	47,947,398	65.82
State		
Total State Owned	8,356,497	11.47
Private		
Private in farms and ranches	13,964,572	19.17
Private - other	2,577,927	3.54
Total Privately Owned	16,542,499	
Total Area of State	72,846,394	100.00

Distribution of Lands in New Mexico		
Federal		
Indian Reservations	7,153,109	9.12
Grazing Districts and Public Domain	14,612,786	18.63
National Parks and National Monuments	163,434	.21
Jornada Experimental Range	189,940	.24
National Forests (not) *	8,611,759	10.98
Soil Conservation Service	566,177	.72
Other Federal Lands	1,371,725	1.75
Total Federally Owned or Managed	32,668,930	41.65
State		
Total State Owned	12,700,968	16.19
Private		
Private in Farms and Ranches	29,592,372	37.73
Private - Other	3,477,882	4.43
Total Privately Owned	33,070,254	
Total Area of State	78,440,152	100.00
Total Area of Region 3	151,286,546	

* Latest available figures

The net forest area in Arizona and New Mexico totals:	20,040,922
The gross forest area in Arizona	12,105,616
The gross forest area in New Mexico	9,900,397
TOTAL	22,006,013

Special Uses - Fiscal Year - 1941

In Force 6/30/47

	Free	Charge	Total
Arizona	3,073	1,647	4,720
New Mexico	1,138	819	1,957
Region 3	4,211	2,466	6,677

Land Exchange
Total Number consummated Cases to June 30, 1947, Inc.

Offered Lands - Total Consummated		Area Accepted	Estimated Value
Arizona	79	242,769	556,523
New Mexico	75	373,367	1,059,362
Total	154	616,136	1,615,885

Selected Lands - Total Consummated

State	Area	Land Value	M. Ft. B.M.	Timber Value
Arizona	28,959	$ 101,513	161,737	$ 392,973
New Mexico	164,745	302,265	272,807	616,821
Region Total	193,704	$ 403,778	434,544	$1,009,794

NATIONAL FOREST AREAS

Fiscal Year 1947

Arizona	Net Area	New Mexico	Net Area
Apache	679,432	Apache	887,778
Coconino	1,750,445	Carson	1,115,992
Coronado	1,316,084	Cibola	1,711,100
Crook	1,422,629	Coronado	69,477
Kaibab	1,779,317	Gila	2,394,783
Prescott	1,265,400	Lincoln	1,178,910
Sitgreaves	805,327	Santa Fe	1,253,719
Tonto	2,410,529		
Total Arizona:	11,429,163	Total New Mexico:	8,611,759

Net area of the 153 National Forests in the U.S. 179,088,191 Acres (F.Y.1947)

EXPERIMENTAL FORESTS

Arizona

Forest	Name of Area	Acreage: National Forest	Acreage: Other	Logging	Grazing	Final Approval
Coconino Kaibab	Fort Valley	4,770		Limited	None	1-28-36
Coconino	Long Valley	2,536	15	Limited	Capacity	3-31-36
Crook	Mt. Graham	3,040		Limited	Continued *	3-23-32
Tonto	Sierra Ancha	13,255		None	Continued	4-6-38

New Mexico

Lincoln	Cloudcroft	2,120		Limited	None	11-30-35

NATURAL AREAS

Arizona

Coconino	Oak Creek Canyon	940		None	None	10-15-31
Coconino	San Francisco Peaks	880		None	Conservative	10-15-31
Coronado	Butterfly Peak	1,000		None	"	7-25-35
Coronado	Chiminea Canyon	160		None	"	2-26-31
Coronado	Pole Bridge Canyon	320		None	Continued	2-26-31
Coronado	Santa Catalina	4,464		None	None	3-23-27

New Mexico

Santa Fe	Monument Canyon	640		None	None	10-1-32

RESEARCH AREA

New Mexico

Santa Fe	Univ. of N. Mex.	10,000		Regular		5-29-30

*Parker Creek Area Closed

STATEMENT OF AREAS UNDER FOREST SERVICE ADMINISTRATION BY COUNTIES

As of June 30, 1947

State and County	National Forest or Experimental Area	Total Area of County Involving N.F. Lands (1940 Census)	Area of County Within N.F. Boundary	Areas not Under F.S. Administration	Acreage Under F.S. Administration	Percent of County Area under F.S. Admnstrn.
ARIZONA						
Apache	Apache-Sitgreaves	7,151,360	515,994	29,163	486,831	6.81
Cochise	Coronado-Crook	4,003,840	529,015	24,629	504,386	12.60
Coconino	Coconino-Kaibab-Prescott Sitgreaves	11,886,720	3,584,182	194,505	3,389,677	28.52
Gila	Crook-Tonto	3,040,000	1,724,874	48,761	1,676,113	55.13
Graham	Crook	2,950,400	399,338	2,063	397,275	13.47
Greenlee	Apache-Crook	1,199,360	758,793	9,864	748,929	62.44
Maricopa	Crook-Tonto	5,907,840	696,073	4,310	691,763	11.71
Mohave	Kaibab	8,486,400	28,219	160	28,059	.33
Navajo	Sitgreaves	6,343,040	544,728	70,936	473,792	7.47
Pima	Coronado-Santa Rita Exp For. - S.W. Exp. For.	5,914,240	448,873	11,349	437,524	7.39
Pinal	Coronado-Crook-Tonto	3,441,920	228,805	6,112	222,693	6.47
Santa Cruz	Coronado	797,440	448,497	23,189	425,308	53.34
Yavapai	Coconino-Kaibab-Prescott-Tonto	5,178,240	2,251,629	251,967	1,999,662	38.62
STATE TOTAL		66,300,800	12,159,020	677,008	11,482,012	

STATEMENT OF AREAS UNDER FOREST SERVICE ADMINISTRATION BY COUNTIES

As of June 30, 1947

State and County	National Forest or Experimental Area	Total area of County Involving N.F. Lands (1940 Census)	Area of County Within N.F. Boundary	Area not Under F.S. Administration	Acreage Under F.S. Administration	Percent of County Area under F.S. Admnstrn.
NEW MEXICO						
Bernalillo	Cibola	744,320	89,925	8,938	80,987	10.88
Catron	Apache-Cibola- Gila	4,414,720	2,407,930	212,898	2,195,032	49.72
Chavez	Lincoln	3,900,160	41,497	1,359	40,138	1.03
Colfax	Carson	2,409,600	7,680	1,387	6,293	.26
Dona Ana	Jornada Exp. Range	2,434,560	193,482	3,542	189,940	7.80
Eddy	Lincoln	2,664,320	139,172	4,433	134,739	5.06
Grant	Gila-Ft. Bayard Res.	2,540,800	916,012	21,123	894,889	35.22
Hidalgo	Coronado-Gila	2,206,080	136,031	58,901	77,130	3.50
Lincoln	Lincoln	3,109,760	507,575	66,850	440,725	14.17
McKinley	Cibola	3,491,840	262,129	99,437	162,692	4.66
Mora	Carson-Santa Fe	1,242,880	121,891	30,206	91,685	7.38
Otero	Lincoln	4,248,320	660,009	189,165	470,844	11.08
Rio Arriba	Carson-Santa Fe Taos L.U. Project	3,747,200	1,266,235	64,065	1,202,170	32.08
Sandoval	Cibola-Santa Fe-Ramon Vigil Pro. Ojo de San Jose Proj.	2,439,040	365,995	25,477	340,518	13.96
San Miguel	Santa Fe	3,039,360	341,545	45,821	295,724	9.73
Santa Fe	Santa Fe-Ramon Vigil Proj. Gaballdon Proj.	1,243,520	217,839	21,317	196,522	15.80
Sierra	Cibola-Gila	1,941,760	391,557	11,255	380,302	19.58
Socorro	Cibola-Lincoln	4,974,080	1,032,854	156,202	876,652	17.62
Taos	Carson-Santa Fe-Taos Proj.	1,443,840	468,938	77,914	391,024	27.08
Torrance	Cibola-Lincoln	2,137,600	297,988	47,630	250,358	11.71
Valencia	Cibola	3,607,680	390,979	189,842	201,137	5.57
STATE TOTAL		57,981,440	10,257,263	1,337,762	8,919,501	

IMPROVED PUBLIC RECREATION AREAS ON NATIONAL FORESTS

ARIZONA

APACHE

Picnic Grounds (3)

Elderberry
Junction Spur
Luna Reservoir

Forest Camps (19)

Benny Creek
Greer
East Fork
Sheep Crossing
Big Lake
West Fork
Colonel
Warren
P. S.
Diamond Rock
Aspen
Hall
Beaver Dam
Buffalo Crossing
Hannagan
K. P. Cienega
Grant Creek
Middle Blue
Upper Blue

Camp and Picnic Grounds (4)

Blue Crossing
South Fork
Alpine
Luna Reservoir

Vistas (1)
Blue

COCONINO

Picnic Grounds (5)

Fulton Spring
Schnebly Hill
Lava Cave
Oak Creek
Bakers Butte

COCONINO (Continued)

Forest Camps (14)

Townsend
Kit Carson
Dairy Springs
Double Springs
"R.H."
Kehl Springs
Pine Flat
Sliderock
Banjo Bill
Manzanita
Clint's Well
Lee Johnson
General Spring
Lake Mary

Vistas (4)

Oak Creek
Schnebly Hill
Mogollon Rim
Bakers Butte

Winter Sports Areas (1)

Arizona Snow Bowl

CORONADO

Picnic Grounds (5)

Sabino Canyon
Bog Springs
Roundup
John Hands
South Fork

Forest Camps (21)

Bear Wallow
Soldier Camp
Middle Sabino
Marshall Gulch
Madera Canyon
Big Rock
Calabasas
Pena Blanca
Rucker

ARIZONA (Cont'd)

CORONADO (Continued)

Forest Camps (Continued)

Bathtub
Cypress
Hermitage
Morse
Sycamore
Turkey Creek
Pinery
Rustler Park
Herb Martyr
Stewart
Idlewild
Sunny Flat

Camp and Picnic Grounds (1)

Lower Sabino

Winter Sports Areas (1)

Bear Wallow

CROOK

Picnic Grounds (8)

Marijilda
Noon Creek
Wet Canyon
Turkey Flat
Pioneer Pass
Kellner Canyon
Pinal Mountain
Warnica Springs

Forest Camps (12)

Stray Horse
Engineer Spring
Upper Juan Miller
Lower Juan Miller
Honeymoon
Granville
Stockton Pass
Arcadia
Shannon
Hospital Flat
Soldier Creek
Jones Water

Camp and Picnic Grounds (2)

Oak Flat
Treasure Park

KAIBAB

Picnic Grounds (4)

Garland Prairie
White Horse
Sycamore
Kanab

Forest Camps (6)

Parks
Spitz Spring
Old Bill Williams
J. D. Dam
Jacob Lake
V. T.

Vistas (4) Winter Sports Area (1)

Garland Prairie Williams Mt.
Sycamore
House Rock
Kanab

PRESCOTT

Picnic Grounds (4)

Thumb Butte
The Playgrounds
Potato Patch
Turney Gulch

Forest Camps (8)

Granite Creek
Indian Creek
Wolf Creek
Upper Wolf Creek
Mingus Mountain
Powell Springs
Hazelett Hollow
Kentuck Spring

Camp and Picnic Ground (1)

Granite Basin

Vistas (2) Winter Sports Areas(2)

Granite Basin Mingus Mountain
Caldwell Canyon Saint Agatha

ARIZONA (Cont'd)

SITGREAVES

Forest Camps (3)

Chevalon
Lakeside
Pinetop

Vistas (1)

Promontory Tower

Winter Sports Areas (1)

Springer Mountain

TONTO

Picnic Grounds (6)

Cave Creek
Seven Springs
Camp Creek
Coon Bluff
Blue Point
Canyon Lake

TONTO (Continued)

Forest Camps (8)

Broncho Canyon
Blue Point
Apache Lake
Pine
Sycamore
Horton-Tonto Creek
Reynolds Creek
Rose Creek

TOTAL DEVELOPED AREAS

ARIZONA

Picnic Grounds	35
Forest Camps	91
Camp and Picnic Grounds	8
Winter Sports Areas	6
Vistas	12
	152

NEW MEXICO

APACHE

Forest Camps (2)

Pueblo Park
Cottonwood Canyon

Vistas (1)

Chimney Rock

CORONADO

Forest Camps (1)

Clanton Canyon

CARSON

Picnic Grounds (3)

Tho Cave
Kiowa Springs
Divisadero Peak

CARSON (Continued)

Forest Camps (21)

El Nogal
Las Petaca
Capulin
La Sombra
Comales
Agua Piedra
Echo Cave
La Junta
Angostura
Santa Barbara
Hondo Canyon
Cabresto Lake
Eagle Rock
Columbine
Goat Hill
La Bobita
Elephant Rock
June Bug
Lagunitas
La Jara
Canjilon
La Viniteria
El Rito

Camp & Picnic Grounds (2)

Winter Sports Areas (2)

Agua Piedra
Red River

NEW MEXICO(Cont'd)

CIBOLA

Picnic Grounds (24)

Juan Tabo
La Cueva
Cole Spring
Cienega Canyon
Sulphur Canyon
Doc Long
Tree Spring
Dry Camp
Balsam Glade
Capulin
Sandia Crest
Kiwanis Point
Las Huertas Creek
Pine Flat
Cedro Peak
New Canyon
Mountainair Ranger Station
Luna Park
Water Canyon
McGaffey
Whitewater
Red Cloud
Springtime
Tajique

Forest Camps (6)

Fourth of July Spring
Capillo Peak
Bear Trap
Hughes Mill
Quaking Aspen
Turkey Spring

Camp & Picnic Grounds (2)

Canyon Colorado
Canyon Lobo

Winter Sports Areas (2)

Sandia Mountain
McGaffey

Vistas (3)

Sandia Crest
Kiwanis Point
Capillo Peak

GILA

Picnic Grounds (7)

Little Walnut
Cherry Creek
McMillen
Pine Flat
Bursum
Emory Pass
Negrito Tower

Forest Camps (12)

Goforth
Iron Creek
Wrights Cabin
Rocky Canyon
Black Canyon
Lower Black Canyon
Gilita
Willow Creek
Ben Lilly
Whitewater
Little Dry
Big Dry

Vistas (1)

Emory Pass

LINCOLN

Picnic Grounds (2)

Sitting Bull Falls
Cedar Creek

Forest Camps (4)

James Canyon
Karr Canyon
Cherokee Bill
School House

Winter Sports Areas (1)

Cedar Creek

Vistas (2)

Monjeau Lookout
Ruidoso Lookout

NEW MEXICO (Cont'd)

SANTA FE

Picnic Grounds (5)

Spence Spring
Little Tesuque
Dalton
E. V. Long
Brides

Forest Camps (19)

Battleship Rock
Jemez River
La Cueva
Calaveras
Rio Las Vacas
East Fork
Jemez Falls
Las Conchas
Black Canyon
Fields Tract
Holy Ghost
Winsor Creek
Panchuela
Oak Flat
Fishing Hole
The Pine
Three Falls
Puerco
Mud Springs

Camp and Picnic Grounds (2)

Banco Bonito
Paliza

Winter Sports Areas (1)

Big Tesuque

JORNADA RANGE RESERVE

Picnic Grounds (1)

Rope Springs

TOTAL DEVELOPED AREAS

NEW MEXICO

Picnic Grounds	42
Forest Camps	65
Camp & Picnic Grounds	6
Winter Sports Areas	6
Vistas	7
	126

TOTAL DEVELOPED AREAS

REGION 3

Picnic Grounds	77
Forest Camps	156
Camp & Picnic Grounds	14
Winter Sports Areas	12
Vistas	19
	278

RECREATION VISITORS - 1947

(Estimates cover government owned lands only)

Recreation Areas	Arizona	New Mexico	Region 3
Campgrounds	79,360	55,940	135,300
Picnic Areas	164,665	147,760	312,425
Winter Sports Areas	19,580	14,100	33,680
Organization Camps	9,945	9,085	19,030
Hotels and Resorts	91,381	2,170	93,551
Recreation Residences	6,479	3,096	9,575
Wilderness Areas	7,223	5,915	13,138
Other Forest Areas	273,657	156,825	430,482
Highways and Roads	1,861,905	159,800	2,021,705
Totals	2,514,195	554,691	3,068,886

WILDERNESS AREAS

Arizona

Forest	Name of Area	Acreage: National Forest	Acreage: Other	Logging	Grazing	Final Approval
Apache (Crook)	Blue Range	216,737	1,427	Deferred	To Capacity	8-20-36
Tonto	Mazatzal	205,000	346	Limited	Conservative	6-13-40
Tonto	Superstition	118,754	66	Limited	Conservative	4-17-40
(Crook)	"	13,000				

New Mexico

Gila	Black Range	168,424	1,560	Discouraged	Conservative	8-20-36
Gila	Gila	562,609	4,445	Inaccessible	Continued	4-4-38 *
Santa Fe	Pecos Division	136,640	1,360	Discouraged	To Continue	8-22-36

* Amended 11/25/44

WILD AREAS

Arizona

Apache	Mt. Baldy	7,400		Inaccessible	Continued	8-20-36
Coconino	Sycamore Canyon	21,277	1,108	None	Continued	8-20-36
Kaibab	Sycamore Canyon	5,870				
Prescott	" "	18,915				
Coronado	Chiricahua	18,000		Discouraged	Conservative	9-18-40
Crook	Galiuro	55,000		Discouraged	Reserve Range	6-19-40
Prescott	Pine Mountain	9,842	76	None	To Decrease	8-22-36
(Tonto)	" "	7,582				
Tonto	Sierra Ancha	29,834	66	Discouraged	Conservative	2-28-33 **

** Amended 4/6/38

New Mexico

Lincoln	White Mountain	22,800	1,200	Discouraged	Conservative	8-20-36
Santa Fe	San Pedro Parks	41,132		Not Contemplated	Continued	9-16-40

PAYMENTS TO STATES FROM NATIONAL FOREST RECEIPTS - JUNE 30, 1947

(See explanation at foot of Page 38)

ARIZONA

Forest	County	Net Forest Area-Acres	Act June 20, 1910 (School Sections)	Act May 23, 1908 (25% Fund)
Apache	Apache	442,621	$	$ 15,991.08
	Greenlee	236,811		8,555.54
	Total	679,432	6,090.94	24,546.62
Coconino	Coconino	1,324,075		43,280.12
	Yavapai	426,370		13,936.79
	Total	1,750,445	14,197.69	57,216.91
Coronado	Cochise	481,990		4,995.22
	Pima	384,675		3,986.68
	Pinal	24,111		249.88
	Santa Cruz	425,308		4,407.80
	Total	1,316,084	3,384.50	13,639.58
Crook	Cochise	22,396		194.00
	Gila	340,420		2,948.68
	Graham	397,275		3,441.15
	Greenlee	512,118		4,435.91
	Maricopa	10,866		94.12
	Pinal	139,554		1,208.80
	Total	1,422,629	3,057.72	12,322.66
Kaibab	Coconino	1,735,025		19,884.47
	Mohave	28,059		321.57
	Yavapai	16,233		186.04
	Total	1,779,317	5,060.05	20,392.08
Prescott	Coconino	43,252		300.01
	Yavapai	1,222,148		8,477.18
	Total	1,265,400	2,177.95	8,777.19
Sitgreaves	Apache	44,210		1,952.20
	Coconino	287,325		12,687.51
	Navajo	473,792		20,921.39
	Total	805,327	8,824.06	35,561.10
Tonto	Gila	1,335,693		13,294.81
	Maricopa	680,897		6,777.30
	Pinal	59,028		587.54
	Yavapai	334,911		3,333.55
	Total	2,410,529	5,953.63	23,993.20
Total for Arizona		11,429,163	$ 48,746.54	$196,449.34

DISTRIBUTION BY COUNTIES OF THE 25% FUND (LAST COLUMN)

Apache	$ 17,943.28	Greenlee	$12,991.45	Pinal	$ 2,046.22
Cochise	5,189.22	Maricopa	6,871.42	Santa Cruz	4,407.80
Coconino	76,152.11	Mohave	321.57	Yavapai	25,933.56
Gila	16,243.49	Navajo	20,921.39		
Graham	3,441.15	Pima	3,986.68	TOTAL	$196,449.34

PAYMENTS TO STATES FROM
NATIONAL FOREST RECEIPTS - JUNE 30, 1947
(See explanation at foot of Page 38)
NEW MEXICO

Forest	County	Net Forest Area-Acres	Act June 20, 1910 (School Sections)	Act May 23, 1908 (25% Fund)
Apache	Catron	887,778	$ 148.65	$ 34,026.24
Carson	Colfax	6,293		64.49
	Mora	2,496		25.58
	Rio Arriba	784,677		8,042.03
	Taos	321,566		3,295.70
	Total	1,115,032	49.93	11,427.80
Cibola	Bernalillo	80,987		560.77
	Catron	165,709		1,147.39
	McKinley	162,692		1,126.50
	Sandoval	45,263		313.41
	Sierra	20,766		143.79
	Socorro	874,786		6,057.15
	Torrance	159,760		1,106.20
	Valencia	201,137		1,392.72
	Total	1,711,100	51.76	11,847.93
Coronado	Hidalgo	69,477	3.34	763.88
Gila	Catron	1,141.545		9,084.78
	Grant	884,054		7,035.58
	Hidalgo	7,653		60.91
	Sierra	359,536		2,861.31
	Total	2,392,788	83.19	19,042.58
Lincoln	Chavez	40,138		364.51
	Eddy	134,739		1,223.63
	Lincoln	440,725		4,002.45
	Otero	470,844		4,275.98
	Socorro	1,866		16.96
	Torrance	90,598		822.76
	Total	1,178,910	46.77	10,706.29
Santa Fe	Mora	89,189		1,417.85
	Rio Arriba	412,392		6,555.88
	Sandoval	274,878		4,369.78
	San Miguel	295,724		4,701.18
	Santa Fe	179,615		2,855.37
	Taos	1,921		30.54
	Total	1,253,719	87.07	19,930.60
Total for New Mexico		8,608,804	$ 470.71	$107,745.32

DISTRIBUTION BY COUNTIES OF THE 25% FUND (LAST COLUMN)

Bernalillo	$ 560.77	Hidalgo	$ 824.79	Sandoval	4,683.19	Torrance	
Catron	44,258.41	Lincoln	4,002.45	San Miguel	4,701.18	$1,928.96	
Chavez	364.51	McKinley	1,126.50	Santa Fe	2,855.37	Valencia	
Colfax	64.49	Mora	1,443.43	Sierra	3,005.10	$1,392.72	
Eddy	1,223.63	Otero	4,275.98	Socorro	6,074.11	Total	
Grant	7,035.58	Rio Arriba	14,597.91	Taos	3,326.24	$107,745.32	

NET RECEIPTS FOR THE FISCAL YEAR 1947

State	TIMBER: Timber Sales	TIMBER: Forest Products	TIMBER: Timber Tres-pass	Grazing	Land Use	Power	Total
Ariz.	$535,816.74	$2743.26	$ 149.05	$261,961.96	$24,637.03	$9,235.86	$ 834,543.90
N.M.	267,849.99	2645.39	1,161.96	149,407.46	10,238.87	148.33	431,452.00
R-3	$803,666.73	$5388.65	1,311.01	$411,369.42	$34,875.90	$9,384.19	$1,265,995.90

Due School Fund (Enabling Act June 20, 1910)

Arizona $48,746.54
New Mexico..... 470.71

	Arizona	New Mexico
Net amounts on which 25% and 10% are computed	$785,797.36	$430,981.29
Due States: 25%	196,449.34	107,745.32 *
Due Road and Trail Fund: 10%	78,579.74	43,098.13 *
TOTALS	$275,029.08	$150,843.45

Value of timber delivered in exchange for land under the Act of March 20, 1922, less value previously delivered in cases rejected during the year: $18,162.00

* 25% of the receipts from National Forests are paid over to the counties in which the forests are located, in lieu of taxes. An additional 10% of the receipts are returned to the forests for use on roads and trails within the forests.

ROADS AND TRAILS - JUNE 30, 1947

ARIZONA

During Fiscal Year 1947	Construction		Maintenance		
Type of Road	Miles	Cost	Miles	Cost	TOTAL
Forest Highways	2.2	$1,632,798	*237	$ 26,265	$ 1,659,063
Forest Devlpmt. Roads	13.3	83,092	**5,414	225,997	309,089
Trails			***1,320	31,169	31,169
TOTAL		1,715,890		283,431	1,999,321

* 129 Mi. Cooperative
**1,510 Mi. Other Agencies
*** 30 Mi. Other Agencies

To June 30, 1947				
Forest Highways	685	12,501,824	470,126	12,971,950
Forest Devlpmt. Roads	3,593	9,180,660	2,384,065	11,564,725
Trails	3,221	581,917	472,526	1,054,443
TOTAL		22,264,401	3,326,717	25,591,118

NEW MEXICO

During Fiscal Year 1947					
Forest Highways	5.8	699,966			699,966
Forest Devlmt. Roads	57.9	136,544	**3,718	250,103	386,647
Trails	0.0	9,064	***3,239	25,822	34,886
TOTAL		845,574		275,925	1,121,499

** 521 Mi. Other Agencies
***308 Mi. Other Agencies

To June 30, 1947				
Forest Highways	335	7,448,193	508,375	7,956,568
Forest Devlpmt.Roads	2,495	7,325,034	2,653,518	9,978,552
Trails	1,963	268,259	332,834	601,093
TOTAL		15,041,486	3,494,727	18,536,213

REGION

During Fiscal Year 1947					
Forest Highways	8.0	2,332,764	*237	26,265	2,359,029
Forest Devlpmt.Roads	71.2	219,635	**9,132	476,100	695,735
Trails	0.0	9,064	***4,559	56,991	66,055
TOTAL		2,561,463		559,356	3,120,819

* 129 Mi. Cooperative
**2031 Mi. Other Agencies
*** 338 Mi. Other Agencies

To June 30, 1947				
Forest Highways	1,020	19,950,017	978,501	20,928,518
Forest Devlpmt. Roads	6,088	16,505,694	5,037,583	21,543,277
Trails	5,184	850,176	805,360	1,655,536
TOTAL		37,305,887	6,821,444	44,127,331

SCHOOLS GIVING COURSES LEADING TO A DEGREE IN FORESTRY
(As compiled by the U. S. Forest Service)

Alabama Polytechnic Institute, Auburn, Alabama
University of California, Berkeley 4, Calif.
Colorado State College, Fort Collins, Colo.
Duke University, Durham, North Carolina
University of Georgia, Athens, Georgia
University of Florida, Gainesville, Fla.
Harvard University, Petersham, Mass.
University of Idaho, Moscow, Idaho
Iowa State College, Ames, Iowa
Louisiana State University, Baton Rouge, La.
University of Maine, Orono, Maine
Michigan State College, East Lansing, Michigan
University of Michigan, Ann Arbor, Michigan
Michigan College of Mining & Technology, Houghton, Mich.
University of Minnesota, Saint Paul, Minn.
Montana State University, Missoula, Montana
University of New Hampshire, Durham, N.H.
North Carolina State College, Raleigh, N.C.
Oregon State College, Corvallis, Oregon
Pennsylvania State College, State College, Penn.
Purdue University, Lafayette, Indiana
Syracuse University, Syracuse, N.Y.
Utah State College, Logan, Utah
University of Washington, Seattle, Wash.
West Virginia University, Morgantown, W. Va.
University of Missouri, Columbia, Missouri
Oklahoma A&M College, Stillwater, Oklahoma
Yale University, New Haven, Conn.

INSTITUTIONS WHICH OFFER A FORESTRY CURRICULUM BUT NOT A FORESTRY DEGREE

University of Connecticut, Storrs, Conn.
University of Massachusetts, Amherst, Mass.
Stephen F. Austin State College, Nacogdoches, Texas
Virginia Polytechnic Institute, Blacksburg, Virginia
Washington State College, Pullman, Washington

1631 First sawmill at Berwick, Maine
1640 First Ordinance governing timber use (Exeter, N.H.).
1822 DeWitt Clinton, Governor of New York, pleaded for practice of conservation
1828 Live oak and cedar reservations for Navy made in Louisiana (19,000 acres).
1831 Timber cutting on public lands prohibited.
1849 Report of Patent Office urges conservation.
1867 Wisconsin appointed committee to report on effect of forest destruction.
1870 Census. Forest area canvassed.
1872 Governor Morton of Nebraska established Arbor Day.
1873 Forestry Committee of American Association for the Advancement of Science presented memorials to Congress, asking for the appointment of a commission of forestry.
Timber culture act.
1876 Congress established an "agency" on forestry in the Department of Agriculture. Dr. Franklin B. Hough appointed Commissioner of Forestry.
1877 Congress granted its first appropriation of $6,000 for the purpose of obtaining information preparatory to establishing a Division of Forestry.
1882 American Forestry Association started April 25 at Cincinnati.
1884 The duty of making experiments with timber was added to work of Divisions of Forestry.
1886 Division of Forestry in Department of Agriculture created.
1891 By Act of Congress, the President was given power to establish forest reservations.
President Harrison established the Yellowstone Park Timber Land Reserve to be under control of the Land Office.
1892 Pecos River Forest Reserve established in New Mexico.
1893 Grand Canyon Forest Reserve established in Arizona.
1896 Secretary of Interior requested the National Academy of Science to investigate and recommend a National Forest policy.
1897 By the Act of June 4, the forest reserves were put under administration and from this Act, with subsequent amendments, the forests are now being administered. The Land Office had charge of administration.
The Division of Forestry gave technical advice. The U. S. Geological Survey was charged with surveying and mapping the forests.
1898 The Division of Forestry employed a total of six clerks and five scientific employees.
The first field work was done, which consisted of special investigation in connection with lumbering.
1901 The Division of Forestry was raised to the rank of Bureau but the change was in name only.
1905 By the Act of February 1, forestry work was consolidated and the forest reserves were transferred to the Department of Agriculture and the work of the Service as we know it today, started. In July 1905, the Bureau of Forestry became the Forest Service.
1907 The "forest reserves" were changed to National Forests in name to correct the impression that they were withdrawn from use.
1908 The direct administration of field work was transferred from Washington, D. C., to six district headquarters in the West; in 1914

a seventh district was established for the Appalachian region; in 1921 an eighth district was established in Alaska, and in 1929, a ninth district was set up for the Lake States.

1909 Between 1901 and 1909, President Roosevelt set aside over 148,000,000 acres of National Forests.

1911 By Act of March 1 (Weeks Law), acquisition of forest lands on headwaters of navigable streams east of Mississippi River made possible.

1922 General Forest Exchange Act authorizing exchange of lands in National Forests, cutting of timber in exchange for land, reservation of timber, etc., amended and extended 1923, 1926, 1928, 1929, 1935.

1924 The Reforestation Act (Clarke-McNary) was passed on June 7, greatly extending the scope of government cooperation in forestry.

1928 McNary-Woodruss Act was passed, authorizing appropriations of $2,000,000 for 1929 and $3,000,000 each for 1930 and 1931 for purchase of forest lands.

Forest Research Act (McNary-McSweeney) was passed, providing for a national forest research program on the part of seven governmental bureaus.

1930 Forest Service Districts became "Regions."

Secretary of Agriculture authorized to enlarge tree planting operations on National Forests.

Secretary of Agriculture authorized in cases of emergency to incur expense in search of persons lost in National Forests and in transporting persons seriously ill, injured or who may die within National Forests to nearest place where may be transferred to interested relatives or local authorities.

1935 Secretary of Agriculture authorized to cooperate with States in acquisition and administration of State Forests (Fulmer Act).

1936 Secretary of Agriculture authorized to maintain forest experiment stations throughout the United States.

1937 Secretary of Agriculture authorized to cooperate in development of farm forestry in States and Territories. (Norris-Doxey Act).

1938 Senate Concurrent Resolution No. 31 adopted June 13, 1938, created a Joint Congressional Committee to study the forest situation in the United States.

1941 Joint Congressional Committee on Forestry issued a report on "Forest Lands of the United States," citing deplorable conditions in the forest areas of many sections of U. S. and recommending "The establishment of a real forest economy in this country which, as important segment of the broad agricultural economy, will put to constructive use one-third of our total land areas." Recommendations included various cooperative aids to private forest land owners, expansion of public ownership, and a federal-state system of regulation governing forestry practices.

1944 Secretary of Agriculture and Secretary of the Interior authorized by Congress to establish cooperative sustained-yield units, under cooperative agreements with private owners of forest land within the units.

Secretary of Agriculture authorized and directed by Congress to cooperate in making a national survey of forest resources.

Clarke-McNary Act (see "1924") amended, increasing funds to not exceeding $1,000,000 annually.

1945-47 The Forest Service completed a post-war reappraisal of the forest situation in the United States. Several Reappraisal Reports were published. The reappraisal showed that the volume of saw-timber in the country's forests had declined some 43 percent in 36 years, that saw-timber was being drained from the forests one and a half times as fast as it was being replaced by growth, and that there had been a marked deterioration in quality as well as quantity of timber. It showed that cutting practice on 64 percent of all private forest land was poor to destructive; 28 percent was fair; only 8 percent was good or better. The reports said there is ample forest land in the United States to grow all the timber we are likely to need, but that if prospective future requirements are to be met, timber growing stock should be built up to double the present volume.